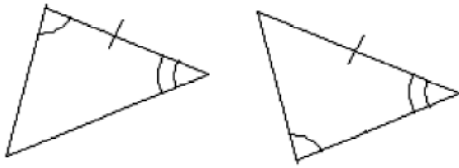


## HSCA3-GEOMETRYEOC

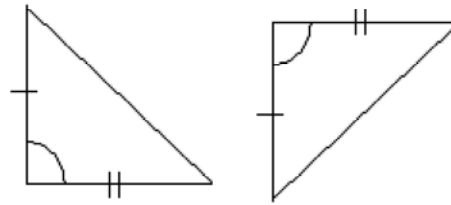
1. Which statement is a counterexample for the following conditional?  
If you live in Springfield, then you live in Illinois.
  - A. Sara Lucas lives in Springfield.
  - B. Jonah Lincoln lives in Springfield, Illinois.
  - C. Billy Jones lives in Chicago, Illinois.
  - D. Erin Naismith lives in Springfield, Massachusetts.
2. Which conditional has the same truth value as its converse?
  - A. If  $x = 7$ , then  $|x| = 7$ .
  - B. If a figure is a square, then it has four sides.
  - C. If  $x - 17 = 4$ , then  $x = 21$ .
  - D. If an angle has measure 80, then it is acute.
3. Which statement provides a counterexample to the following faulty definition?  
A square is a figure with four congruent sides.
  - A. A six-sided figure can have four sides congruent.
  - B. Some triangles have all sides congruent.
  - C. A square has four congruent angles.
  - D. A rectangle has four sides.
4. Which biconditional is NOT a good definition?
  - A. A whole number is odd if and only if the number is not divisible by 2.
  - B. An angle is straight if and only if its measure is 180.
  - C. A whole number is even if and only if it is divisible by 2.
  - D. A ray is a bisector of an angle if and only if it splits the angle into two angles.
5. Complete the statement. If a transversal intersects two parallel lines, then \_\_\_\_\_ angles are supplementary.
  - A. acute
  - B. alternate interior
  - C. same-side interior
  - D. corresponding

6. In each pair of triangles, parts are congruent as marked. Which pair of triangles is congruent by ASA?

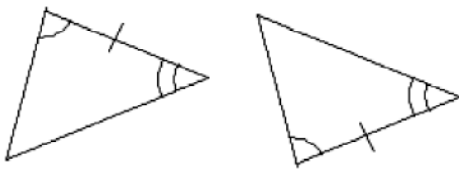
A.



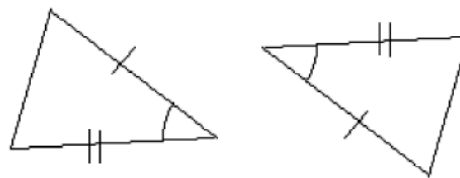
C.



B.



D.



7. Which two statements contradict each other?

- I. Jon, Elizabeth, and Franco read 27 books among them for a class.
  - II. Franco read 6 books.
  - III. None of the three students read more than 7 books.
- A. I and II  
 B. I and III  
 C. II and III  
 D. No two of the statements contradict each other.

8. Which two statements contradict each other?

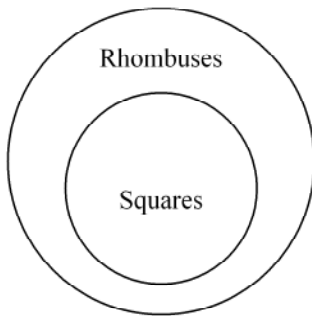
- I.  $\overline{PQ}$  lies on plane  $PQR$ .
  - II. Point  $S$  lies on plane  $PQR$ .
  - III.  $\overline{QS}$  does not lie on plane  $PQR$ .
- A. I and II  
 B. I and III  
 C. II and III  
 D. No two of the statements contradict each other.

9. Three security cameras were mounted at the corners of a triangular parking lot. Camera 1 was 158 ft from camera 2, which was 121 ft from Camera 3. Cameras 1 and 3 were 140 ft apart. Which camera had to cover the greatest angle?

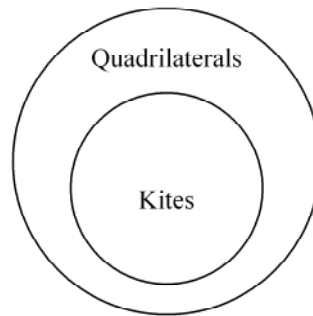
- A. camera 2      B. camera 1      C. cannot tell      D. camera 3

10. Which Venn diagram is NOT correct?

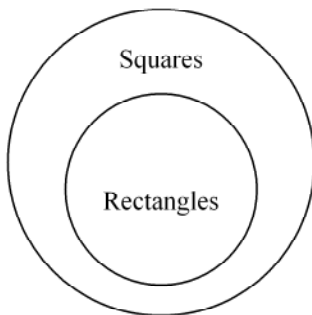
A.



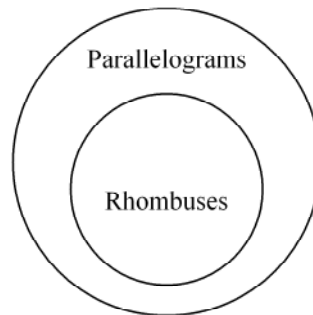
C.



B.



D.



11. Which description does NOT guarantee that a quadrilateral is a parallelogram?

- A. a quadrilateral with both pairs of opposite sides congruent
- B. a quadrilateral with the diagonals bisecting each other
- C. a quadrilateral with consecutive angles supplementary
- D. quadrilateral with two opposite sides parallel